



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
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www.miamidade.gov/economy

The Garland Company, Inc.
3800 East 91st Street
Cleveland, OH 44105-2197

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Garland Modified Bitumen Roof System Over Gypsum Deck.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews NOA No. 11-0621.15 and consists of pages 1 through 18.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 12-1003.14
Expiration Date: 12/02/13
Approval Date: 12/13/12
Page 1 of 18

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Material: SBS/SIS/SEBS
Deck Type: Gypsum
Maximum Design Pressure: -172.5 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---------------------------|-------------------|---------------------------|--|
| HPR Tri-Base Premium | 36" x 72' | ASTM D 4601 | Double asphalt coated, polyester/fiberglass/polyester scrim reinforced base sheet. |
| HPR Glasfelt | 36" x 180' | ASTM D 2178, Type IV | Asphalt impregnated glass felt |
| HPR Premium Glasfelt | 36" x 180' | ASTM D 2178, Type VI | Asphalt impregnated glass felt |
| HPR Glasbase | 36" x 108' | ASTM D 4601, Type II | Asphalt coated fiberglass base sheet. |
| HPR Premium Glasbase | 36" x 72' | ASTM D 4601, Type II | Asphalt coated fiberglass base sheet. |
| HPR Torch Base Sheet | 39" x 34'8" | ASTM D 6163 | SBS modified, fiberglass reinforced, torch applied base sheet. |
| FlexBase Plus 80 | 39" x 34'8" | ASTM D 6162, Type III | SBS modified, fiberglass/polyester reinforced base sheet |
| BK Glasfelt | 36" x 180' | ASTM D 4990, Type I | Coal Tar impregnated glass felt |
| BK Premium Glasfelt | 36" x 180' | ASTM D 4990, Type I | Coal Tar impregnated glass felt |
| HPR Polyscrim Plus | 40" x 324' | ASTM D 5726 | Polyester felt |
| StressPly EUV FR Mineral | 39" x 26'2" | ASTM D 6162, Type III | Mineral surfaced, SBS/SIS modified, fiberglass/polyester reinforced membrane. |
| StressPly EUV | 39" x 34'8" | ASTM D 6162, Type III | Smooth surfaced, SBS/SIS modified, fiberglass/polyester reinforced membrane. |
| StressPly Plus | 39" x 34'8" | ASTM D 6162, Type III | Smooth surfaced, SBS modified, fiberglass/polyester scrim membrane. |
| StressPly Plus FR Mineral | 39" x 26'2" | ASTM D 6162, Type III | Mineral surfaced, SBS modified, fire retardant, UV resistant, fiberglass/polyester scrim membrane. |



| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|-------------------------------|--------------------------|----------------------------------|---|
| StressPly E | 39" x 34'8" | ASTM D 6162, Type III | Smooth surfaced, SBS/SIS modified, fiberglass/polyester reinforced membrane. |
| StressPly E FR Mineral | 39" x 26'2" | ASTM D 6162, Type III | Mineral surfaced, SBS/SIS modified, fire retardant, fiberglass/polyester reinforced membrane. |
| StressPly | 39" x 34'8" | ASTM D 6163, Type III | Smooth surfaced, SBS modified, fiberglass scrim reinforced roofing membrane. |
| StressPly FR Mineral | 39" x 26'2" | ASTM D 6163, Type III | Mineral surfaced, SBS modified, fire retardant, fiberglass scrim membrane. |
| VersiPly 60 | 39" x 34'8" | ASTM D 6163, Type III | Smooth surfaced, SBS modified, fiberglass scrim reinforced roofing membrane. |
| VersiPly 80 | 39" x 34'8" | ASTM D 6163, Type III | Smooth surfaced, SBS modified, fiberglass scrim reinforced roofing membrane. |
| VersiPly Mineral | 39" x 26'2" | ASTM D 6163, Type III | Mineral surfaced, SBS modified, fiberglass scrim reinforced roofing membrane. |
| StressPly IV | 39" x 26'2" | ASTM D 6163, Type III | Smooth surfaced, SBS modified, fiberglass reinforced, torch applied cap sheet. |
| StressPly IV Mineral | 39" x 26'2" | ASTM D 6163, Type III | Mineral surfaced, SBS modified, fiberglass reinforced, torch applied cap sheet. |
| StressPly IV UV Mineral | 39" x 26'2" | ASTM D 6163, Type III | Mineral surfaced, SBS modified, fiberglass reinforced, torch applied cap sheet. |
| Garla-Prime | 5, 55 gallon | ASTM D 41 | Non-fibered, quick drying asphalt roof primer |
| Garla-Prime WB | 5, 55 gallon | ASTM D 41 | Non-fibered, quick drying asphalt roof primer |
| Insul-Lock II | 3 gallon | Proprietary | Polyurethane low rise insulation adhesive |
| Black-Knight | 70 lb. keg | Proprietary | Polymer modified coal tar pitch. |
| Black-Knight LV Flood Coat | 70 lb. keg | Proprietary | Polymer modified coal tar pitch. |
| Black-Knight CTP | 200 lb. keg | Proprietary | Polymer modified coal tar pitch. |
| Black-Knight Cold | 5, 55 gallon | Proprietary | Polymer modified coal tar pitch. |
| Green-Lock Membrane Adhesive | 5 gallon | Proprietary | Cold process roof coating and adhesive. |
| Weatherking | 5, 55 gallon | ASTM D 3019, Type III | Cold process roof coating and adhesive. |
| Weatherking Plus WC | 5, 55 gallon | ASTM D 3019, Type III | Cold process roof coating and adhesive. |
| Weatherking Flashing Adhesive | 5, 55 gallon | ASTM D 3019, Type III | Cold process roof flashing adhesive. |

| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|------------------------------|--------------------------|----------------------------------|---|
| Garlastic KM Plus | 60 lb. keg | TAS 121 | SEBS modified, hot applied asphalt. |
| HPR All Temp Asphalt | 100 lb. keg | TAS 121 | Hot asphalt adhesive for modified bitumen and BUR roof systems. |
| GarMesh | 6" x 150' | ASTM D 1668 | SBR coated woven fiberglass reinforcing membrane. |
| Grip Polyester Firm | 10 sq. | ASTM D 1682 | Polyester reinforcing fabric for use in cold applied systems. |
| Grip Polyester Soft | 10 sq. | ASTM D 1682 | Polyester reinforcing fabric, for use in cold applied systems. |
| Pyramic | 5, 55 gallon | Proprietary | White acrylic reflective roof coating |
| Solex | 5, 55 gallon | Proprietary | White kynar Reflective roof coating |
| White-Knight | 5, 55 gallon | Proprietary | White urethane reflective roof coating. |
| Garla-Shield | 5, 55 gallon | ASTM D 1227, Type IV | Asphalt emulsion roof coating. |
| Silver-Shield | 5, 55 gallon | ASTM D 2824, Type III | High solids, aluminized roof coating. |
| WeatherScreen | 5, 55 gallon | ASTM D 4479, Type I | Asbestos-free, heavy-bodied, fiber-reinforced, fire-rated asphalt roof coating. |
| Garla-Brite | 5, 55 gallon | ASTM D 4479, Type I | Asbestos-free, heavy-bodied, fiber-reinforced, fire-rated asphalt roof coating. |
| Energizer K Plus FR | 5, 55 gallon | ASTM D 4479, Type I | Multipurpose, rubberized, liquid waterproofing membrane. |
| Green-Lock Flashing Adhesive | 3.5 gallon | Proprietary | Trowel grade, roofing mastic for use in repair and patching against leaks in built-up roofs. |
| Black-Knight Mastic | 5 gallon | Proprietary | Trowel grade, tar based roofing mastic for use in repair and patching. |
| Flashing Bond | 5 gallon | ASTM D 4586 | Trowel grade, asphalt based roofing mastic for use in repair and patching against leaks in built-up asphalt roofs. |
| Silver-Flash | 5 gallon | ASTM D 4586 | Trowel grade, asphalt based roofing mastic for use in repair and patching against leaks in built-up asphalt roofs. |
| Garla-Flex | 2, 5 gallon pail | ASTM D 4586 | Elastomeric, asphaltic compound formulated from a special weather and ozone-resistant thermoplastic rubber, plasticizing oils and bitumen. Asbestos free. |

APPROVED INSULATIONS:

| TABLE 2 | | |
|------------------------------------|--|------------------------------------|
| Product Name | Product Description | Manufacturer (With Current NOA) |
| ACFoam II, ACFoam III | Polyisocyanurate foam insulation | Atlas Energy Products |
| ISO 95+GL | Polyisocyanurate foam insulation | Firestone Building Products |
| High Density Wood Fiberboard | Wood fiber insulation board | Generic |
| Perlite Insulation | Perlite insulation board | Generic |
| DensDeck, DensDeck Prime | Water resistant gypsum board | G-P Gypsum Corp. |
| H-Shield | Polyisocyanurate foam insulation | Hunter Panels, Inc. |
| Fesco Board | | Johns Manville |
| ENRGY-3, ENRGY-3 PSI 25 | Polyisocyanurate foam insulation | Johns Manville |
| Multi-Max FA-3 | Polyisocyanurate foam insulation | Rmax |
| Structodek High Density Fiberboard | High Density wood fiber insulation board | Blue Ridge Fiberboard |
| Roof Insulation | | |
| FiberGlass Roof Insulation | Glass fiber/Mineral fiber insulation | Generic |

APPROVED FASTENERS:

| TABLE 3 | | | | |
|-----------------|----------------------------|--|------------|------------------------------------|
| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
| 1. | OMG Lite-Deck | Carbon Steel CR-10 coating insulation fastener for gypsum & CWF decks. | Various | OMG, Inc. |
| 2. | Lite-Deck Plate | 3" round galvalume AZ55 steel plate | 3" round | OMG, Inc. |
| 3. | CR Base Ply Fasteners | G-90 galvanized fastener | Various | OMG |
| 4. | Twin Loc-Nails | Pre-assembled galvalume steel fastener/plate unit. | Various | ES Products, Inc. |
| 5. | FM-90 Fasteners | Base sheet fastener | Various | ES Products, Inc. |
| 6. | Nail-Tite Type A or R | Galvalume AZ-55, preassembled fasteners | Various | ES Products, Inc. |
| 7. | Simplex Assembled Tube-Lok | Assembled Hi-carbon steel nail with a 3" plate | Various | Simplex Nails & Fasteners |

EVIDENCE SUBMITTED

| <u>Test Agency</u> | <u>Test Identifier</u> | <u>Description</u> | <u>Date</u> |
|---|------------------------|---------------------|-------------|
| Dynatech Engineering Corporation Factory Mutual Research Corporation | #4530.05.95-1 | TAS 114 | 5/31/95 |
| | IVOA7.AM | FM 4470 | 02/21/95 |
| | 1B4A7.AM | FM 4470 | 12/15/97 |
| | 4B4A9.AM | FM 4470 | 12/31/97 |
| | 0Y5A6.AM | FM 4470 | 09/08/97 |
| | 3D3A5.AM | FM 4470 | 09/15/98 |
| | 3004392 | FM 4470 | 09/21/99 |
| | 3000637 | FM 4470 | 4/26/00 |
| | 0D9A0.AM | FM 4470 | 05/02/00 |
| | 3004907 | FM 4470 | 05/16/00 |
| | 3009117 | FM 4470 | 12/21/00 |
| | 3010113 | FM 4470 | 11/18/02 |
| | 3019046 | FM 4470 | 03/04/05 |
| | 3021718 | FM 4470 | 04/11/05 |
| Momentum Technologies, Inc. | EX22B7A | ASTM D 6162 | 04/11/07 |
| | TX21G5A | ASTM D5147 | 04/25/06 |
| | DX14C7A | ASTM D 6163 | 03/16/07 |
| | EX11L5A | ASTM D 5147 | 03/19/07 |
| | RX18C8A-R | ASTM D 6162/D6163 | 03/28/08 |
| PRI Asphalt Technologies, Inc. | GRD-03-02-01 | ASTM D5147 | 01/07/98 |
| | GRD-05-02-01 | ASTM D5147 | 12/18/97 |
| | GRD-06-02-01 | ASTM D5147 | 01/09/98 |
| PRI Construction Materials Technologies | GRD-054-02-01 | ASTM D 2626 | 11/17/11 |
| | GRD-051-02-01 | ASTM D 2178 | 10/28/11 |
| | GRD-052-02-01 | ASTM D 2178 | 10/28/11 |
| Trinity ERD | 4533.05.98-1-R1 | TAS 114(J) | 09/09/11 |
| | 4544.11.06 | TAS 114 | 11/02/06 |
| | G32950.06.10 | ASTM D4601 | 06/11/10 |
| | G32700.09.11-1 | ASTM D4601 | 09/16/11 |
| | G39620.07.12 | ASTM D4990 | 07/02/12 |
| | G37200.10.12-1-R1 | ASTM D6163/D4798 | 12/05/12 |
| | G37200.10.12-2-R1 | ASTM D6162/D4798 | 12/05/12 |
| | G37200.10.12-3-R1 | ASTM D6162/D4798 | 12/05/12 |
| | G37200.10.12-4-R1 | ASTM D6162 | 12/05/12 |
| | G37200.10.12-5-R1 | ASTM D6162 | 12/05/12 |
| | G37200.10.12-6-R1 | ASTM D6162/D4798 | 12/05/12 |
| | G37200.10.12-7-R1 | ASTM D6162 | 12/05/12 |
| | G37200.10.12-9-R1 | ASTM D6162/D4798 | 12/05/12 |
| | G37200.10.12-10-R1 | ASTM D6163/D4798 | 12/05/12 |
| | G37200.10.12-11-R1 | ASTM D6163/D4798 | 12/05/12 |
| | G37200.10.12-12-R1 | ASTM D6163/D4798 | 12/05/12 |
| | G37200.10.12-13-R1 | ASTM D6162 | 12/05/12 |
| | G39630.07.12 | Physical Properties | 07/12/12 |

APPROVED ASSEMBLIES:

Membrane Type: SBS/SIS/SEBS
Deck Type 6I: Poured Gypsum, Insulated
Deck Description: Poured Gypsum Concrete
System Type A(1): Anchor sheet mechanically fastened; all layers of insulation adhered with approved adhesive.

All General and System Limitations apply.

Anchor Sheet: One ply of HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium fastened to the deck as described below:

Fastening: Attach anchor sheet using ES Products Twin Loc-Nail spaced 6" o.c. within 4" wide lap and 6" o.c. within three equally spaced staggered rows in the field.

| <u>Base Insulation Layer (Optional)</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| ACFoam II, ENRGY 3, H-Shield, Multi-Max FA-3 Minimum 1.5" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck Prime Minimum 1/4" thick | N/A | N/A |

Note: All insulation shall be adhered to the anchor sheet in Insul-Lock II or Millennium Pourable Foam Insulation Adhesive applied in 3/4"- 1" wide ribbons atop the anchor sheet fastener rows (approximately 8.8" o.c.) . Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base/Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt or other approved ASTM D 2178 Type IV or VI ply sheet or other approved ASTM D 4601 Type II base sheet adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 25 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Or

One ply of HPR Torch Base Sheet, torch applied to coverboard

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, StressPly EUV, StressPly EUV FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 25 lbs./sq.

Or

One ply of StressPly IV, StressPly IV UV Mineral or StressPly IV Mineral, torch applied.

Surfacing:

Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in BlackKnight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or BlackKnight Cold at 5 gal/sq. (asphalt applied systems only, Not compatible with Weatherking and Weatherking Plus WC applied systems)
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat .
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.

**Maximum Design
Pressure:**

-52.5 psf (See General Limitation #7.)

Membrane Type: SBS/SIS/SEBS
Deck Type 6I: Poured Gypsum, Insulated
Deck Description: Poured Gypsum Concrete
System Type A(2): Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt

All General and System Limitations apply.

Anchor Sheet: One ply of HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium fastened to the deck as described below:

Fastening: Attach anchor sheet using ES Products Twin Loc-Nail spaced 6" o.c. within 4" wide lap and 6" o.c. within three equally spaced staggered rows in the field.

| <u>Base Insulation Layer (Optional)</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| ACFoam II, ENRGY 3, H-Shield, Multi-Max FA3 Minimum 1.5" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck Prime Minimum 1/4" thick | N/A | N/A |

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 25 lbs/100 ft². Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base/Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt or other approved ASTM D 2178 Type IV or VI ply sheet or other approved ASTM D 4601 Type II base sheet adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 25 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Or

One ply of HPR Torch Base Sheet, torch applied to coverboard

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, StressPly EUV, StressPly EUV FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 25 lbs./sq.

or

One ply of StressPly IV, StressPly IV UV Mineral or StressPly IV Mineral, torch applied.

Surfacing:

Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in BlackKnight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or BlackKnight Cold at 5 gal/sq. (asphalt applied systems only, Not compatible with Weatherking and Weatherking Plus WC applied systems)
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat .
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.

Maximum Design**Pressure:**

-135.0 psf (See General Limitation #7.)

Membrane Type: SBS/SIS/SEBS

Deck Type 6I: Poured Gypsum, Insulated

Deck Description: Poured Gypsum Concrete

System Type B(1): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System Limitations apply.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 2)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| ACFoam II, ENRGY 3 Minimum 1.5" thick | 1 | 1:2 ft ² |
| Fesco Board Minimum ¾" thick | 1 | 1:2 ft ² |
| Approved Fiber Glass Roof Insulation (Standard or Wide Flute) Minimum 1 ⁵ / ₁₆ " thick | 1 | 1:2 ft ² |
| Approved High Density Fiberboard, Structodek High Density Fiberboard Roof Insulation, DensDeck, DensDeck Prime Minimum ½" thick | 1 | 1:2 ft ² |

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

| <u>Top Insulation Layer (Optional)</u> | <u>Insulation Fasteners (Table 2)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| Fesco Board Minimum ¾" thick | N/A | N/A |
| Approved Fiber Glass Roof Insulation (Standard or Wide Flute) Minimum 1 ⁵ / ₁₆ " thick | N/A | N/A |
| Approved High Density Fiberboard, Structodek High Density Fiberboard Roof Insulation, DensDeck, DensDeck Prime Minimum ½" thick | N/A | N/A |

Note: Apply optional top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side face down.

- Base/Ply Sheet:** One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus or other Approved ASTM D 2178, type IV or VI ply sheet or other approved ASTM D 4601 Type II base sheet adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)
- Membrane:** One ply of StressPly E, StressPly E FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, StressPly EUV, StressPly EUV FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing:** Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in BlackKnight Flood Coat or Black-Knight LV Flood Coat at 70 lb./sq. or BlackKnight Cold at 5 gal/sq. (asphalt applied systems only, Not compatible with Weatherking and Weatherking Plus WC applied systems)
 2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
 3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
 4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat .
 5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
 6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
- Maximum Design Pressure:** -45 psf. (See General Limitation #9.)

Membrane Type: SBS/SIS/SEBS
Deck Type 6I: Poured Gypsum, Insulated
Deck Description: Poured Gypsum Concrete
System Type B(2): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt or adhesive.

All General and System Limitations apply.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| ACFoam II, ACFoam III, ENRGY 3, ENRGY 3 PSI 25, ISO 95+GL Minimum 1.8" thick | Any fastener from Table 3 | 1:3 ft ² |

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| Approved High Density Wood Fiber Minimum ½" thick | N/A | N/A |
| Approved Perlite Minimum ¾" thick | N/A | N/A |
| DensDeck, DensDeck Prime Minimum ¼" thick | N/A | N/A |

Note: Top layer of insulation shall be adhered with approved hot asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs/100 ft² or in Insta-Stik Roofing Adhesive applied in continuous ¾ to 1 inch wide beads spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side face down.

Base/Ply Sheet: Minimum Two plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Polyscrim Plus or other approved ASTM D 4601 Type II base sheet adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of HPR Polyscrim Plus adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. or with Weatherking or Weatherking Plus WC applied at 2½ gal./sq.

Surfacing: 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 40 lb./sq. or in BlackKnight Flood Coat or BlackKnight LV Flood Coat at 70 lb/sq.

Maximum Design Pressure: -45.0 psf. (See General Limitation #9.)

Membrane Type: SBS/SIS/SEBS
Deck Type 6I: Poured Gypsum, Insulated
Deck Description: Poured Gypsum Concrete
System Type C: All layers of insulation simultaneously attached.

All General and System Limitations apply.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 2)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| ACFoam II, ENRGY 3 Minimum 1.5" thick | N/A | N/A |
| Fesco Board Minimum ¾" thick | N/A | N/A |
| Approved Fiber Glass Roof Insulation (Standard or Wide Flute) Minimum 15/16" thick | N/A | N/A |
| Approved High Density Fiberboard, Structodek High Density Fiberboard Roof Insulation, DensDeck, DensDeck Prime Minimum ½" thick | N/A | N/A |

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 2)</u> | <u>Fastener Density/ft²</u> |
|---|--|---|
| Fesco Board Minimum ¾" thick | 1 | 1:2 ft ² |
| Approved Fiber Glass Roof Insulation (Standard or Wide Flute) Minimum 15/16" thick | 1 | 1:2 ft ² |
| Approved High Density Fiberboard, Structodek High Density Fiberboard Roof Insulation, DensDeck, DensDeck Prime Minimum ½" thick | 1 | 1:2 ft ² |

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base/Ply Sheet:** One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus or other Approved ASTM D 2178, type IV or VI ply sheet or other approved ASTM D 4601 Type II base sheet adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)
- Membrane:** One ply of StressPly E, StressPly E FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, StressPly EUV, StressPly EUV FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing:** Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in BlackKnight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or BlackKnight Cold at 5 gal/sq. (asphalt applied systems only, Not compatable with Weatherking and Weatherking Plus WC applied systems)
 2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
 3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
 4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat .
 5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
 6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
- Maximum Design Pressure:** -45 psf. (See General Limitation #9.)

Membrane Type: SBS/SIS/SEBS
Deck Type 6: Poured Gypsum, Non-Insulated
Deck Description: Poured Gypsum Concrete
System Type E(1): Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: One ply of HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium mechanically attached as noted below.

Fastening: OMG CR Base Ply Fasteners, ES Products FM-90 Fasteners, ES Products Nail-Tite Type A or R or Simplex Assembled Tube-Lok spaced 9" o.c. in a min. 2" side lap and 18" o.c. in two equally spaced center rows in the field of the sheet.

Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus or other Approved ASTM D 2178, type IV or VI ply sheet or other approved ASTM D 4601 Type II base sheet adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, StressPly EUV, StressPly EUV FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in BlackKnight Flood Coat or Black-Knight LV Flood Coat at 70 lb./sq. or BlackKnight Cold at 5 gal/sq. (asphalt applied systems only, Not compatable with Weatherking and Weatherking Plus WC applied systems)
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat .
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.

Maximum Design Pressure: -45 psf. (See General Limitation #9.)

Membrane Type: SBS/SIS/SEBS
Deck Type 6: Poured Gypsum, Non-Insulated
Deck Description: Poured Gypsum Concrete
System Type E(2): Base sheet mechanically fastened

All General and System Limitations apply.

Base Sheet: One ply of HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium fastened to the deck as described below:

Fastening: Attach base sheet using ES Products Twin Loc-Nail spaced 6" o.c. within 4" wide lap and 6" o.c. within three equally spaced staggered rows in the field.

Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt or other approved ASTM D 2178 Type IV or VI or other approved ASTM D 4601 Type II base sheet adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 25 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, StressPly EUV, StressPly EUV FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 25 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in BlackKnight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or BlackKnight Cold at 5 gal/sq. (asphalt applied systems only, Not compatable with Weatherking and Weatherking Plus WC applied systems)
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat or minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat .
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.

Maximum Design Pressure: -172.5 psf (See General Limitation #7)

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 12-1003.14
Expiration Date: 12/02/13
Approval Date: 12/13/12
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